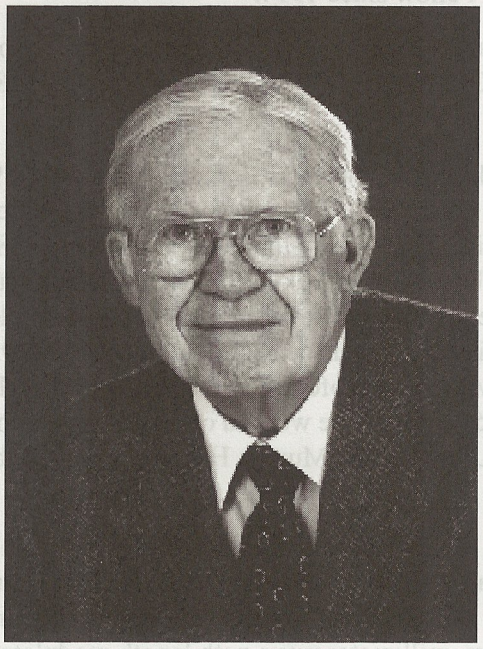
1996 MICROWAVE CAREER AWARD

Dr. John H. Bryant

The Microwave Career Award is the highest honor bestowed by MTT-S. It recognizes an individual for a lifetime career of meritorious service and technical excellence in the field. In 1996, our honored recipient is Dr. John H. Bryant, a former President of MTT-S and an IEEE Fellow.

The award consists of a plaque, a certificate and an honorarium of $2,000. The Career Award Citation reads: "FOR LEADERSHIP IN THE MINIATURIZATION OF MICROWAVE CIRCUITS AND INTERCONNECTIONS, AND FOR PIONEER HISTORICAL RESEARCH ON RADAR AND THE WORK OF HEINRICH HERTZ."



John H. Bryant (M'50-SM'52-F'67) received a B.S.E.E. from Texas A. & M. University in 1942. Following active duty in the U.S. Army Signal Corps in England and Europe, and extensive experience with British and American operational radar, he received the M.S. and Ph.D. degrees in 1947 and 1949 from the University of Illinois.

At ITT Laboratories (1949 to 1955) Dr. Bryant was developing traveling-wave amplifier tubes with applications in broadband electronic countermeasures equipment. The available coaxial type N circuit connectors made it impossible to get broadband, compact, and reflectionless performance.

At the Bendix Research Laboratories Division (1955 to 1962) he organized efforts that resulted in the enabling technology for the first microwave miniaturized connectors. Dr. Bryant and two colleagues, James Cheal and Vincent J. McHenry, who had been largely responsible for this miniaturization, believed it held the potential for an entirely new approach to microwave construction for broadband, compact assemblies to use in missiles and spacecraft, as well as for replacement of waveguide and bulky coax in conventional applications at all microwave frequencies.

They founded Omni Spectra, Inc. in 1962, to manufacture the miniature connectors to military and NASA requirements. The reduced cross-section extended the upper usable frequency to at least the top of K-band (through 26 GHz) and also made practical use of microstrip transmission line circuits.

The much smaller circuit elements, which came with the miniaturization, and the geometry of microstrip were compatible with use of new semiconductor diodes and transistors then becoming available. This fostered the trend to microwave integrated circuits. A complete line of miniature, very low reflection coaxial connectors in categories of circuit connections, interconnections, and cable fittings was produced—complete enough to allow a wide variety of components, devices, and systems to be developed. OSM, for Omni Spectra Miniature, was adopted as a trademark. Other manufacturers came in gradually, beginning in 1964. They largely conformed to the OSM interface and design—an example of voluntary cooperation which led in 1968 to a standard under MIL-C-39012 as the type SMA connector.

Dr. Bryant served on MTT-S AdCom from 1965 to 1970 and was President in 1970. He also served as Chairman of the Southeastern Michigan Section in 1970. He was MTT-S Distinguished Microwave Lecturer in 1986 to 1987 on the topic, "The First Century of Microwaves, 1876 - 1976." He headed the MTT-S Heinrich Hertz centennial celebration in 1988, produced an exhibit, a book titled *Heinrich Hertz: The Beginning of Microwaves*, and organized a special session of papers at the 1988 Symposium. He has been extensively engaged in documenting and writing on history of electromagnetics and microwaves, and more recently has been concentrating on history of radar including oral history interviews.

John and his wife, Dr. Barbara Everitt Bryant, have two daughters, a son, and eight grandchildren.